

New York State Department of Transportation

Yellow Flag NB23U4W007

By: Malav Shah

Flag Date: April 19, 2023

Superseding Information:

No Flags Superseded

Structure Information

BIN: 1065318

Feature Carried: 278I278IX2M23027

Feature Crossed: 6TH AVENUE

Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY

County: KINGS

Political Unit: City of NEW YORK

Approximate Year Built: 1962

Posted Load Matches Inventory : Yes

Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation

Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party

Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder

This Bridge is not a Ramp

Number of Spans: 322

Verbal Notification Information

Person Notified: Heinz Joachim, P.E.

Date: April 19, 2023 1:00:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Malav Shah, P.E. 106620-1

Date: May 16, 2023

Reviewed By: Robert Kemp

Date: May 16, 2023

Attachments: 12

Flagged Elements

Parent Element	Element	Total Quantity	Unit
Span Number : 110			
	113 - Steel Stringer	104	ft

Flagged Condition Description

This Yellow Flag No. NB23U4W007 is a new flag.

Location: Span 110, Stringer S1 at 3rd Transfer Beam.

This condition is observed in the web of Stringer S1 [West Curb Girder – (WCG)] at the connection angle on both sides of the 3rd transfer beam near the center of the span. Stringer S1 on both sides of the Transfer Beam 3 has multiple large corrosion holes in the stringer web, adjacent to/alongside the connection angle to the transfer beam. (Photo 4).

Stringer S1 (WCG) web at end face of 3rd Transfer Beam:

- The stringer web exhibits a 1" W x 1-1/2" H edge hole along top flange, above the upper connection angle. There is also a 2"H x 1-1/2"W hole in stringer web adjacent to upper connection angle, located at 4-1/2" from top flange. Stringer S1 web also exhibits a large 3" W x 9" H hole at 8" from the top flange.
- The top flange exhibits 3" W x 1-1/2" W hole with knife edge up to 90% section loss over 1-1/2" L x 3" W area adjacent to the hole. The bottom flange angle on the left side of the stringer exhibits up to 50% section loss in both legs over an area of 36" L x full width. There is a 1-1/2" W x 2-1/2" L hole in bottom flange located at 8" from the stringer end.
- The stringer web has two connection angles on the left side. Upper connection angle has 2 out of 3 bolts sheared off in connecting leg and all 6 bolts sheared off in outstanding leg. Connecting leg of upper connection angle exhibits a 4"W x 4-1/2"H edge hole. Outstanding leg of connection angle exhibits one 3/4" dia. pin hole in upper side and a 3"W x 3-1/2"H edge hole in lower side of the leg. Remaining area of both legs exhibits 50-70% section loss. There is pack rust between outstanding leg and railing post cover plate, causing up to 1" gap between two surfaces.
- Lower connection angle exhibits a 2-1/2" W x full height hole in connecting leg. Remaining surface of both legs exhibits 80-85% section loss.
- Connection angle on right side of the stringer web exhibits heavy pack rust in top part of connecting leg, causing up to 2" bulging of connecting leg. In addition, there is a 38"L x 2-1/2"W hole in the curb plate along the right side of the top flange.

Stringer S1 (WCG) web at begin face of 3rd Transfer Beam:

- The stringer web exhibits a 2" W x 1" H edge hole along the top flange, at 6" from the upper connection angle. There is a 3"-5" W x 17" H hole in the stringer web along the connection angle. Stringer web also exhibits up to 70% section loss over a 4-1/2" H x 3" W area with one 1/4" dia. pin hole along bottom flange connection angle.
- The bottom flange angle on the left side of the stringer exhibits up to 50% section loss in both legs over an area of 24" L x full width.
- The stringer web has two connection angles on the left side of the stringer. The upper connection angle has 2 out of 3 bolts sheared off in the connecting leg and all 6 bolts sheared off in the outstanding leg. Connecting leg of upper connection angle exhibits 3 edge holes (2"H x 3" W), (3"H x 3" W) and (1"H x 3" W). The outstanding leg of the upper connection angle exhibits 5"H x 2-1/2" W edge hole in lower side of the leg. Remaining area of both legs exhibits 50-70% section loss. There is pack rust between the outstanding leg and railing post cover plate, causing up to 1" gap between the two surfaces.
- The lower connection angle exhibits a 3"W x 5"H edge hole on the upper side of connecting leg. Remaining surface of the connecting leg exhibits 80-85% section loss.
- Connection angle on right side of the stringer web exhibits heavy pack rust in top part of connecting leg, causing up to 2" bulging of connecting leg. In addition, there is a 5"L x 2-1/2"W hole in the curb plate above, along the right side of the top flange of Stringer S1.

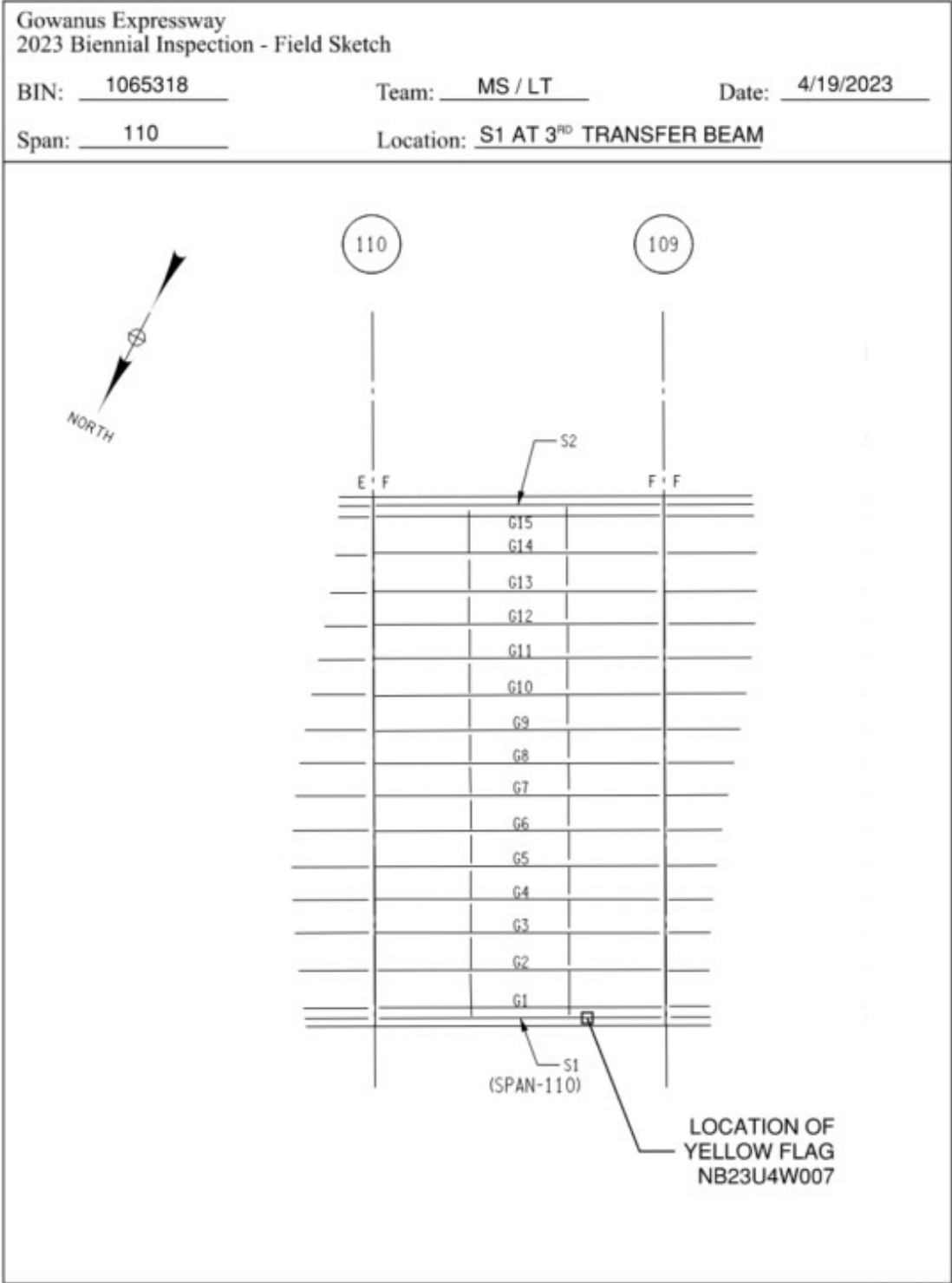
Notes:

1. Stringer S1 receives no direct live loading, but supports the barrier/railing above on I278.
2. Adjacent Girder G1 has 1/16" section loss (Full Height x up to 5"W) along the connection angle on both sides of the girder web.

3. NSCO 22-0039 was issued previously for this location. There has been no significant changes to this member from the previous inspection.
4. The flagged condition is located above the center lane on 3rd Avenue WB roadway and was accessed using 30ft bucket truck with double left lane closure.

Flag Photographs

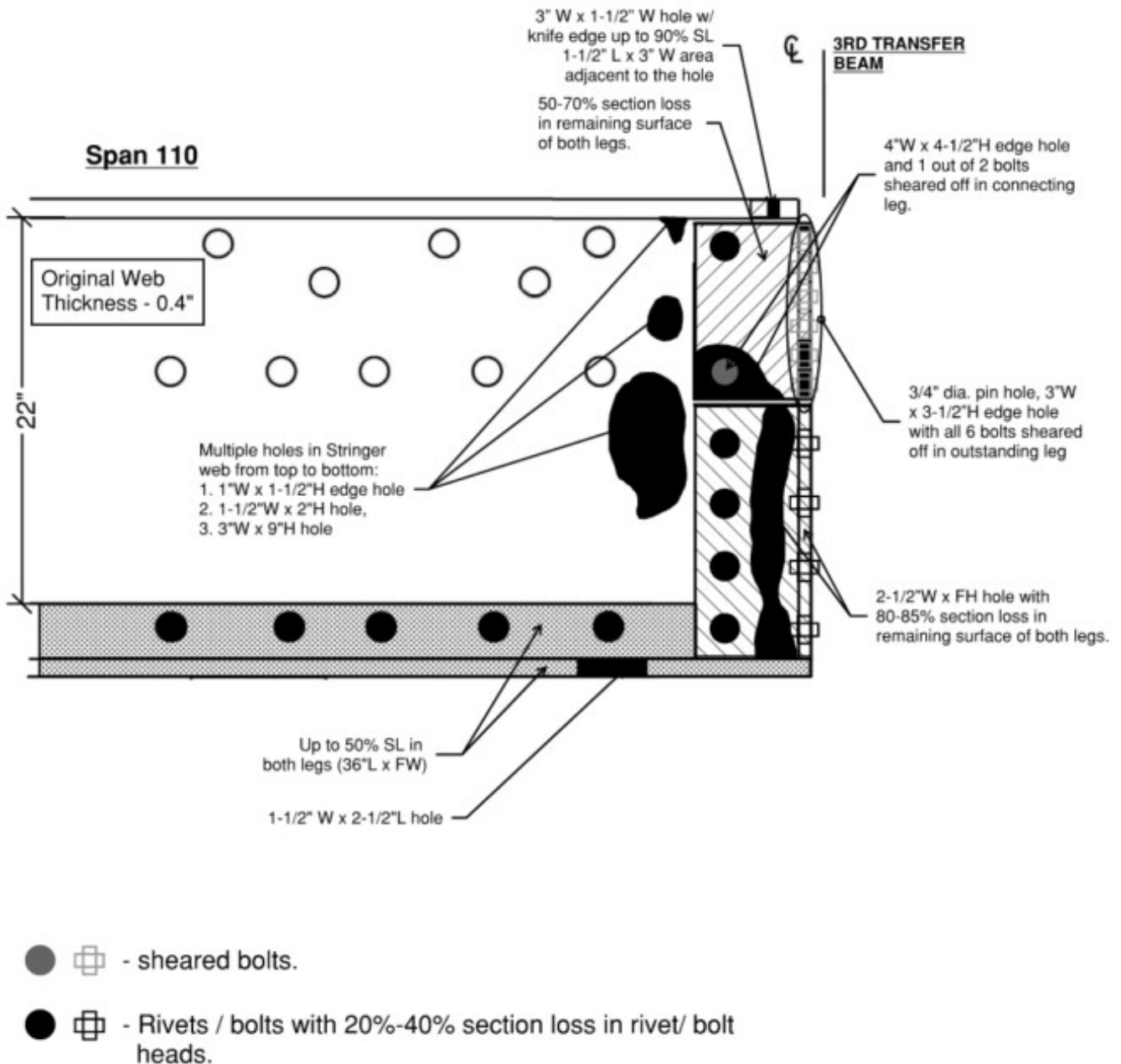
Photo Number: 1 Photo Filename: NB23U4W007 LOCATION PLAN.JPG



Attachment Description: Yellow Flag Location Plan

Photo Number: 2

Photo Filename: NB23U4W007 CONDITION SKETCH 1.JPG

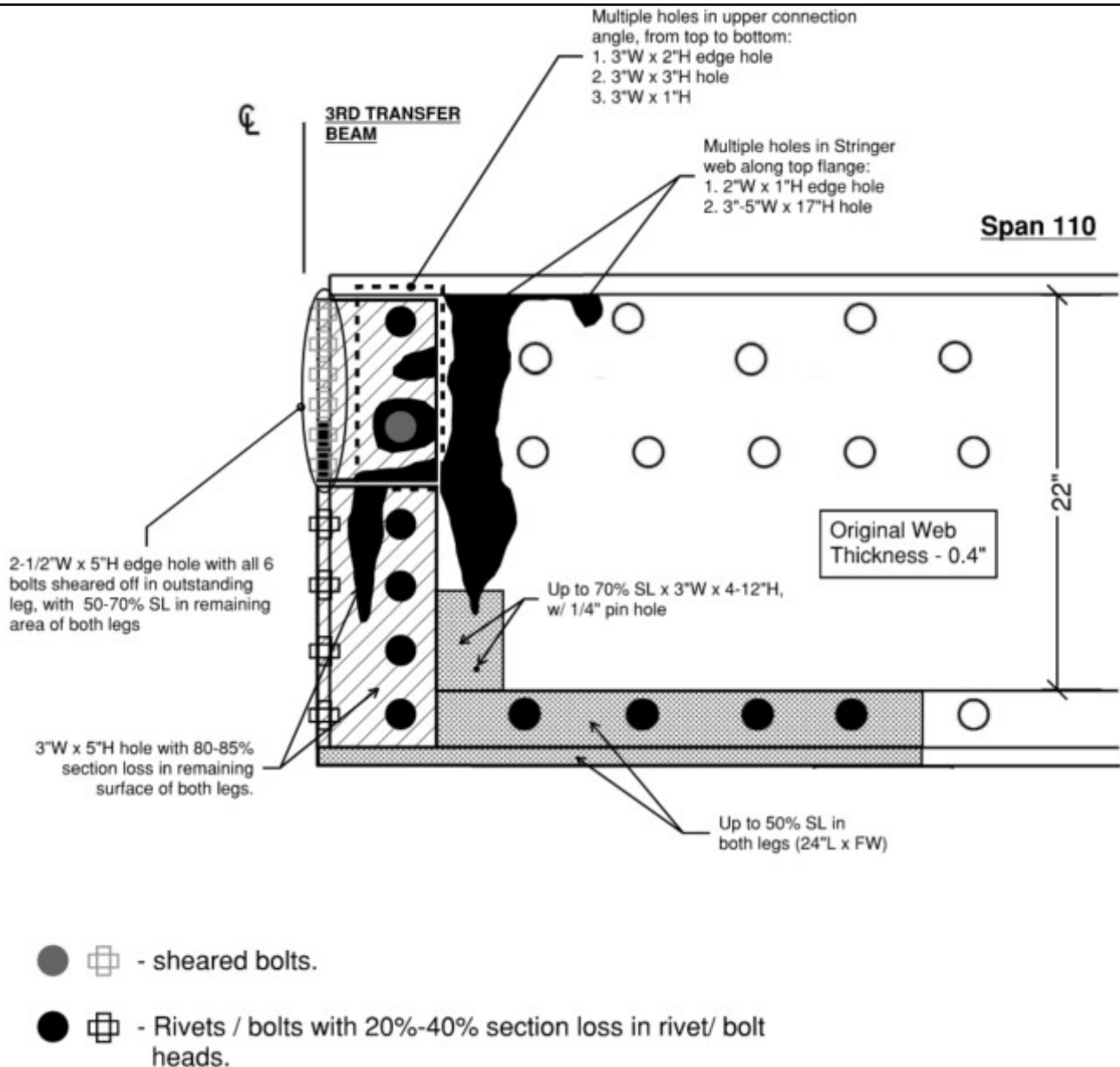


SKETCH FOR YELLOW FLAG # NB23U4W007
SPAN 110, STRINGER S1
AT END FACE OF 3RD TRANSFER BEAM
(LOOKING RIGHT)
N.T.S

Attachment Description: Yellow Flag Condition Sketch (1 of 2)

Photo Number: 3

Photo Filename: NB23U4W007 CONDITION SKETCH 2.JPG



SKETCH FOR YELLOW FLAG # NB23U4W007
SPAN 110, STRINGER S1
AT BEGIN FACE OF 3RD TRANSFER BEAM
(LOOKING RIGHT)
N.T.S

Attachment Description: Yellow Flag Condition Sketch (2 of 2)

Photo Number: 4

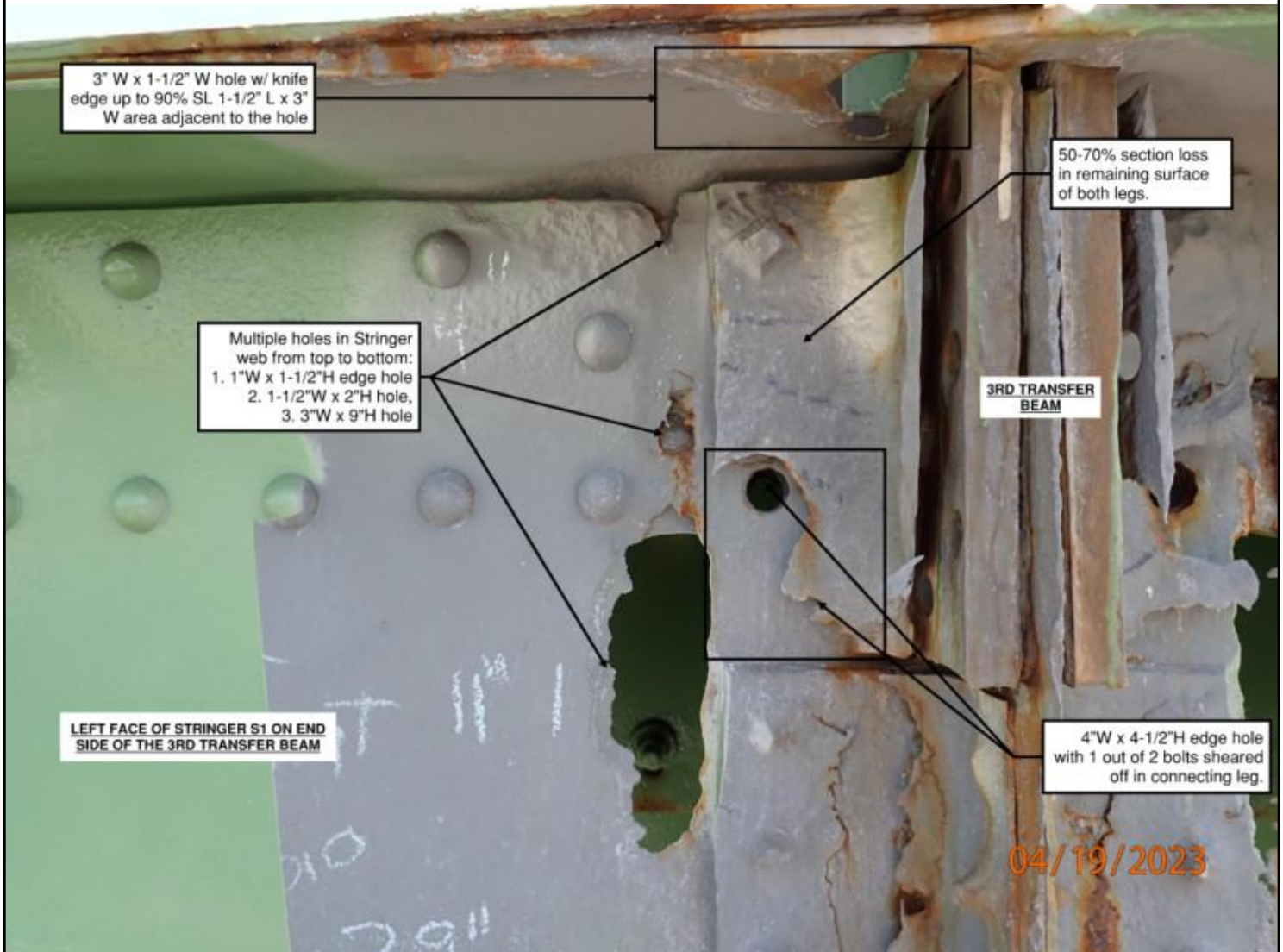
Photo Filename: P4192405.JPG



Attachment Description: General View of S1 at 3rd Transfer beam in Span 110. Multiple holes and missing connection bolt in upper connection angle, stringer web and top flange with section loss in surrounding area. Looking Right.

Photo Number: 5

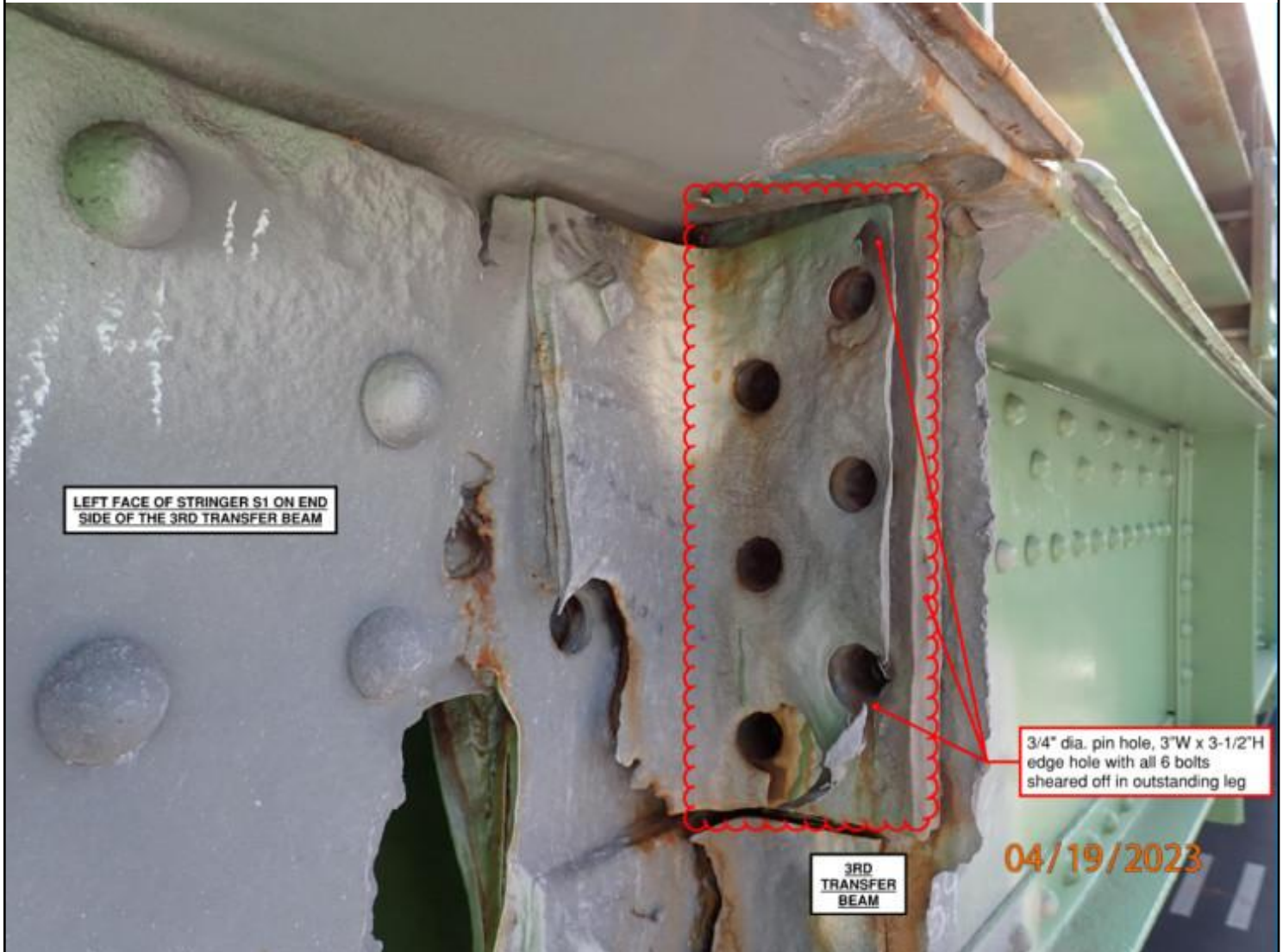
Photo Filename: P4192410.JPG



Attachment Description: Multiple holes and missing connection bolt in upper connection angle, stringer web and top flange with section loss in surrounding area. Looking Right.

Photo Number: 6

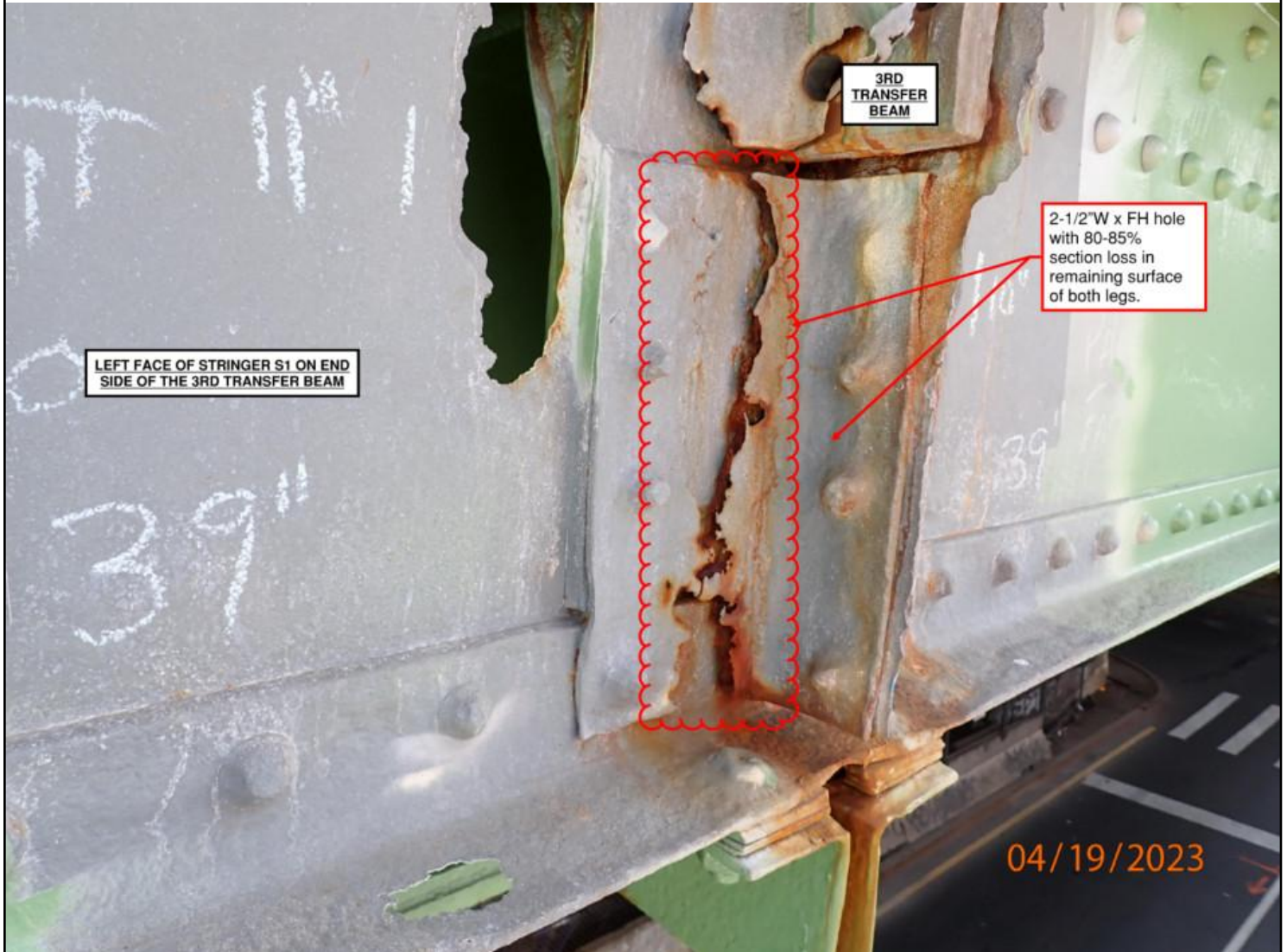
Photo Filename: P4192415.JPG



Attachment Description: 3/4" dia. pin hole, 3"W x 3-1/2"H edge hole with all 6 bolts sheared off in outstanding leg of upper connection angle. Looking Begin - Right.

Photo Number: 7

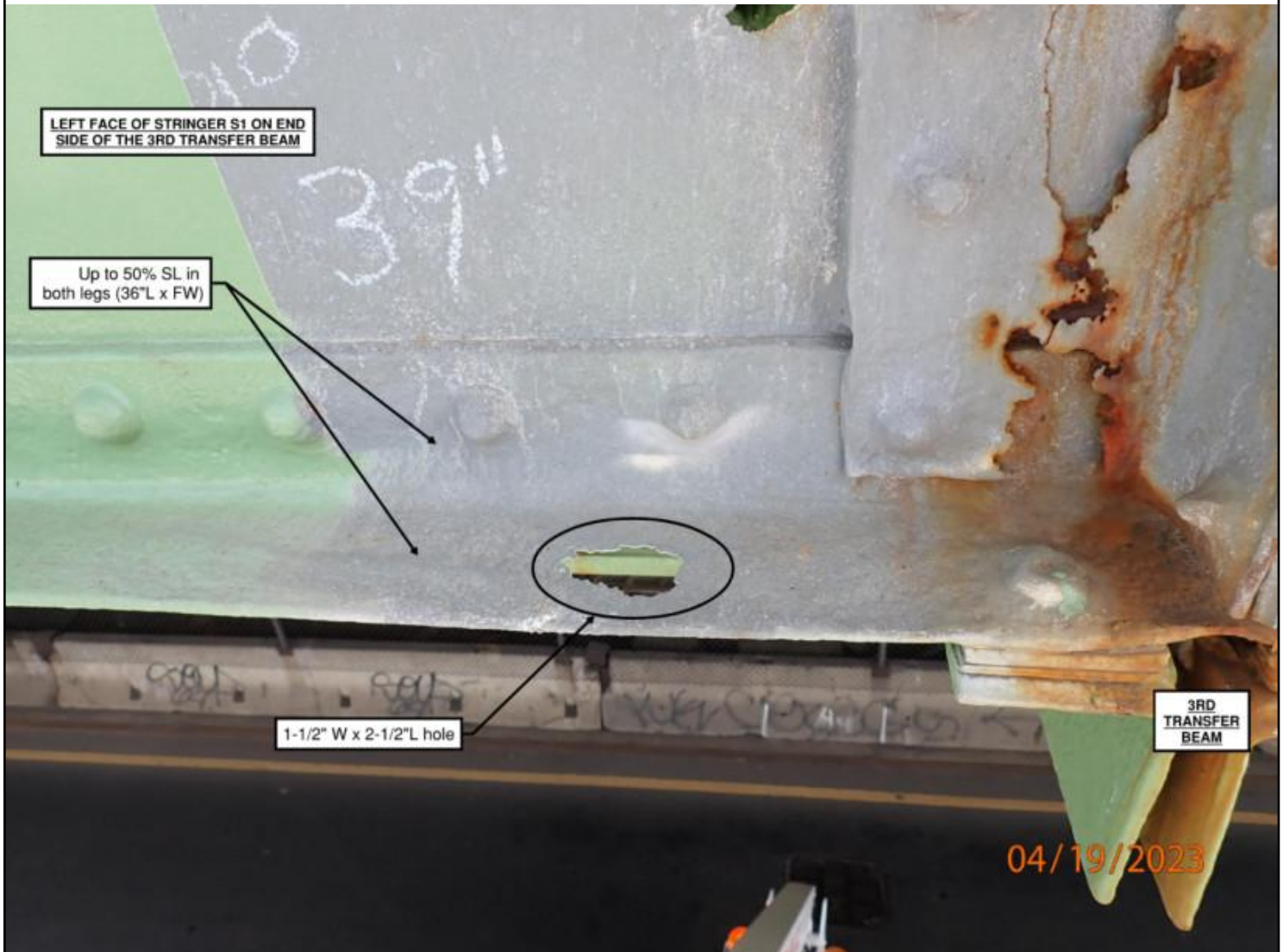
Photo Filename: P4192418.JPG



Attachment Description: 2-1/2"W x FH hole in connecting leg with 80-85% section loss in remaining surface of both legs. Looking Begin - Right.

Photo Number: 8

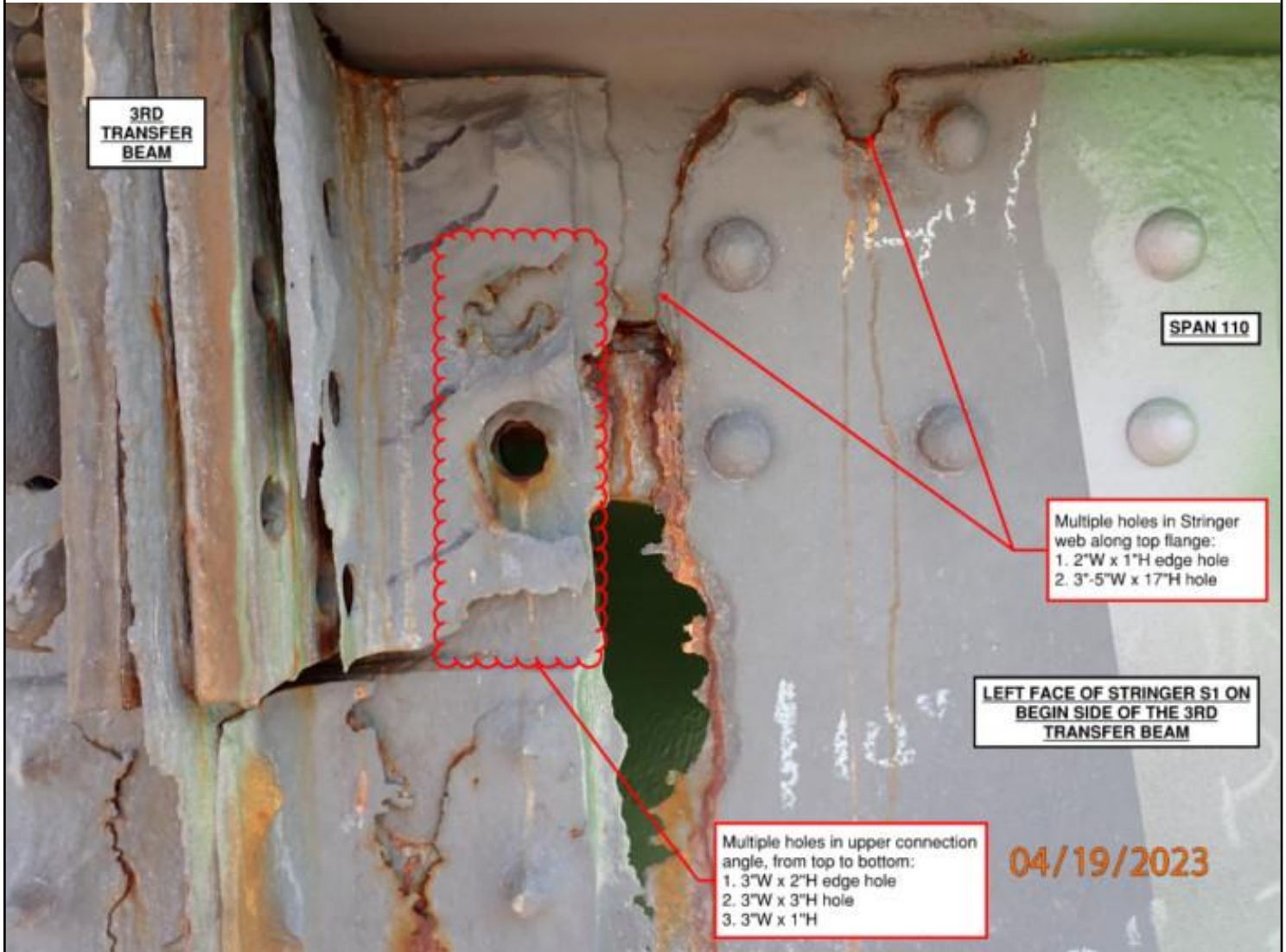
Photo Filename: P4192412.JPG



Attachment Description: Up to 50% SL in both legs (36"L x FW) with a 1-1/2" W x 2-1/2"L hole in outstanding leg of left side bottom flange angle. Looking Right - Down.

Photo Number: 9

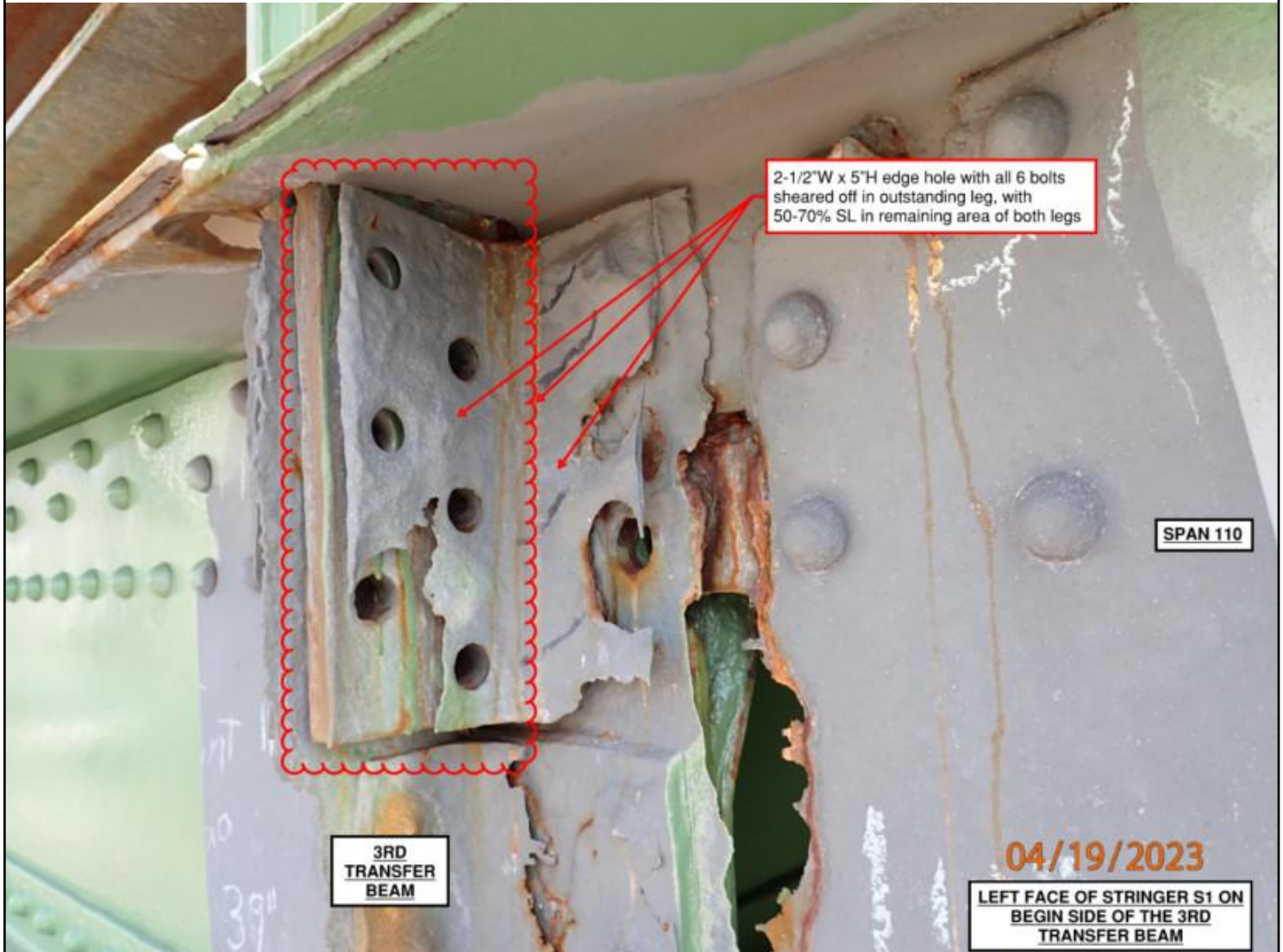
Photo Filename: P4192406.JPG



Attachment Description: Multiple holes with missing connection bolt in upper connection angle, stringer web and top flange with section loss in surrounding area. Looking Right.

Photo Number: 10

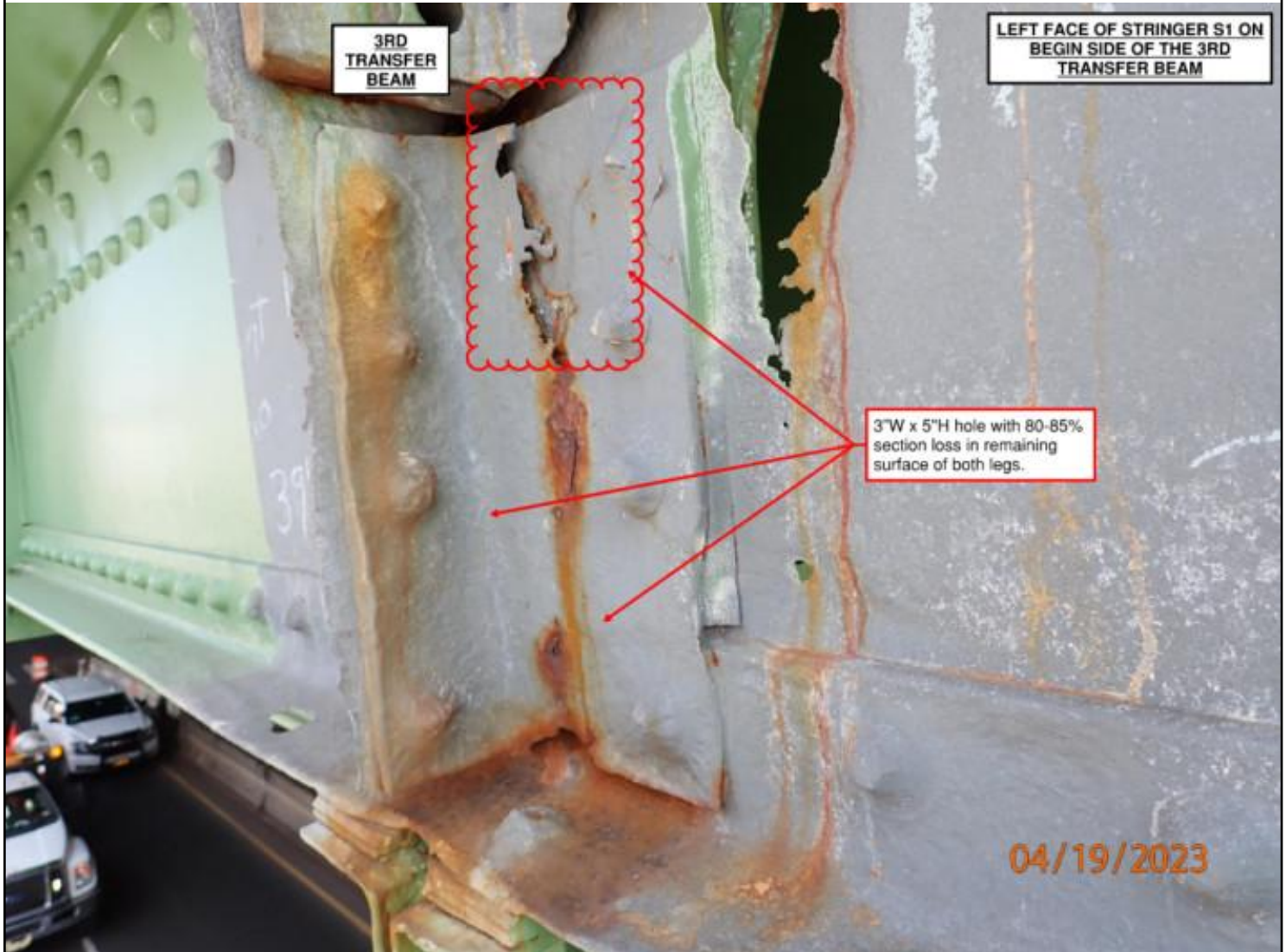
Photo Filename: P4192408.JPG



Attachment Description: 2-1/2"W x 5"H edge hole with all 6 bolts sheared off in outstanding leg, with 50-70% SL in remaining area of both legs of upper connection angle. Looking End - Right.

Photo Number: 11

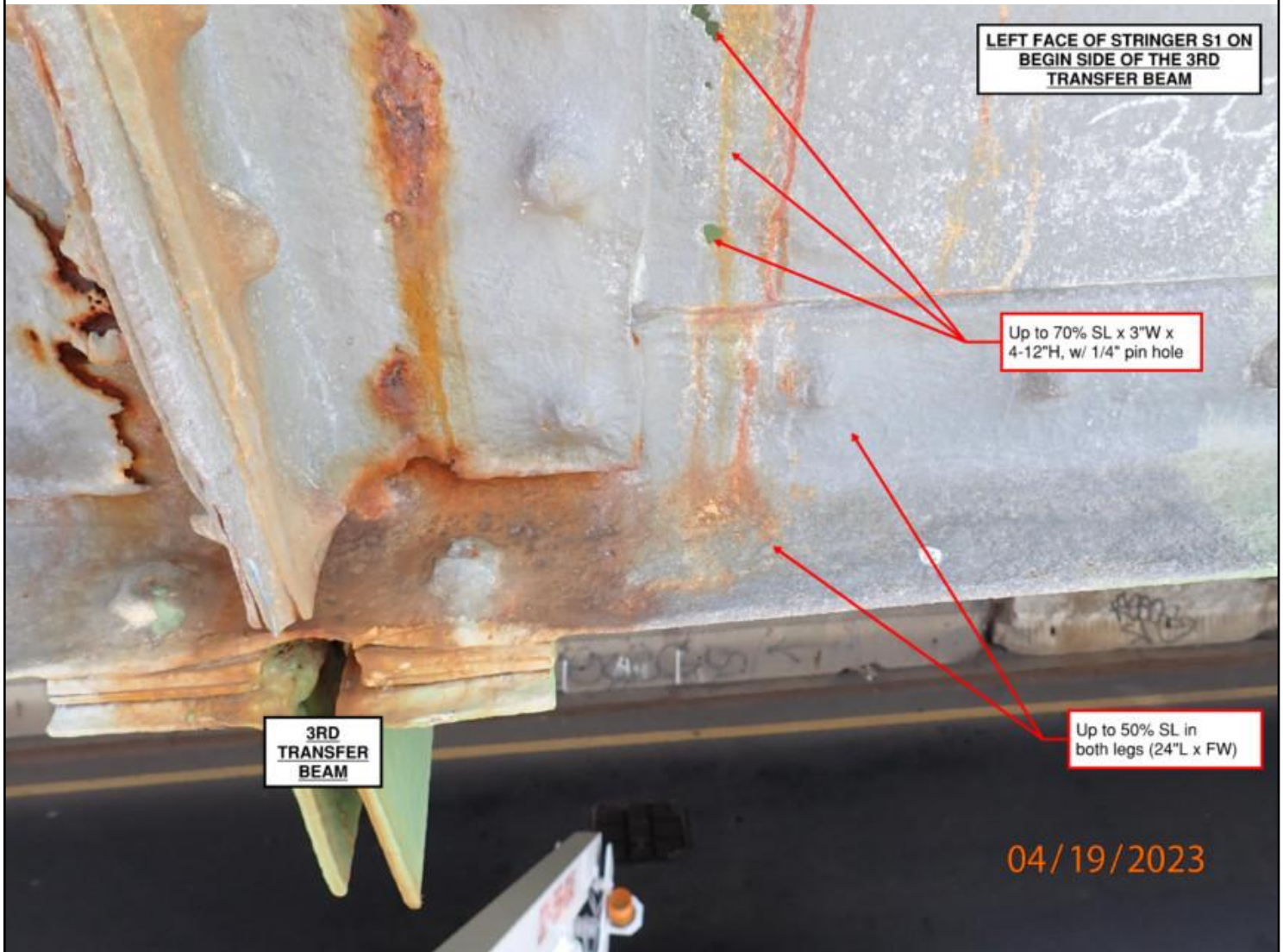
Photo Filename: P4192417.JPG



Attachment Description: 3"W x 5"H hole in connecting leg with 80-85% section loss in remaining surface of both legs of lower connection angle. Looking End - Right.

Photo Number: 12

Photo Filename: P4192413.JPG



Attachment Description: Stringer web exhibits up to 70% SL x 3"W x 4-12"H, w/ 1/4" pin hole in lower web along bottom flange angle. Bottom flange angle on left side has up to 50% SL (24"L x FW) in both legs. Looking Right - Down.